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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,370	07/29/2003	William S. Becker	27611/38403A	6254

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222 south Riverside Plaza Suite 1410
Chicago, IL 60606

EXAMINER

GONZALEZ, JULIO C

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,370

Applicant(s)

BECKER, WILLIAM

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-131 is/are pending in the application.
- 4a) Of the above claim(s) 74-114 and 123-131 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-73 and 115-122 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/8/03, 6/1/04, 04/27/05 + 3/1/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I in the reply filed on 04/27/05 is acknowledged. Moreover, a phone was made by the Applicant's representative, David Hurley, asking to take into consideration claims 115-122 in the Office Action. The Examiner analyzed the claims again and found that such claims 115-122 may be encompassed with claims 1-73 (Group I). This Office Action will take into consideration claims 1-73 and 115-122 (apparatus claims).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: cross-strut member 44. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the

examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 44 and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Such claims disclose an acronym (NACA) not explained in the specifications.

Such acronym must be spell out in the claims and also in the specifications.

5. Claim 1 recites the limitation "the other of the helically twisted blade" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

6. Claims 8, 9, 15, 17, 18, 20, 21, 29 recites the limitation "vane segment" in the context of the claims. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 7, 30, 68, 115, 116, 117 and 119 are rejected under 35 U.S.C. 102(b) as being anticipated by Joutsiniemi (Canadian Patent No 1,236,030).

Joutsiniemi discloses a wind turbine having helically twisted blade, a plurality of airfoil blades 4 (see figure 2) fixed with the helically blade, a turbine mast 3 (see figure 6). The helically blade comprise two half wing blades 1, 2.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2, 10, 11, 12, 13, 19, 22, 24, 28, 29, 31, 32, 56, 120, 121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi in view of Trigilio (US 4,551,631).

Joutsiniemi discloses a wind turbine having helically twisted blade, a plurality of airfoil blades 4 fixed with the helically blade, a turbine mast 3. The helically blade comprise two half wing blades 1, 2.

However, Joutsiniemi does not disclose that the helical blades have a plurality of vane segments.

On the other hand, Trigilio discloses for the purpose of increasing the efficiency of wind turbines, helical blades 30-38 having five vane segments 74 (see figure 3) and the vane segments have a fixed edge and a free movable edge, which abuts the adjacent vane segment (see figure 3, helical blade 32).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a wind turbine as disclosed by Joutsiniemi and to modify the invention by having helical blade with vane segments for the purpose of increasing the efficiency of wind turbines as disclosed by Trigilio.

11. Claims 4, 5 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi in view of Smith (US 1,100,332).

Joutsiniemi discloses a wind turbine having helically twisted blade, a plurality of airfoil blades 4 fixed with the helically blade, a turbine mast 3. The helically blade comprise two half wing blades 1, 2.

However, Joutsiniemi does not disclose having a cage for the wind turbine.

On the other hand, Smith discloses for the purpose of taking advantage of multiple wind directions, a wind turbine having being inside a cage (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a wind turbine as disclosed by Joutsiniemi and to modify the invention by having a cage around the wind turbine for the purpose of taking advantage of multiple wind directions as disclosed by Smith.

12. Claims 3 and 122 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi in view of Yea (US 5,463,257).

Joutsiniemi discloses a wind turbine having helically twisted blade, a plurality of airfoil blades 4 fixed with the helically blade, a turbine mast 3. The helically blade comprise two half wing blades 1, 2.

However, Joutsiniemi does not disclose that the airfoil are longer than the helical blades.

On the other hand, Yea discloses for the purpose of making a more efficient wind power generator, airfoil 11 being longer than helical blades 22 9see figure 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a wind turbine as disclosed by Joutsiniemi and to

modify the invention by having the airfoil longer than the helical blades for the purpose of making a more efficient wind power generator as disclosed by Yea.

13. Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi and Trigilio as applied to claims 7 and 19 above and further in view of Link (US 6,358,009).

The combined wind turbine discloses all of the elements above. However the combined wind turbine does not disclose that the vanes are treated against UV light.

On the other hand, Link discloses for the purpose of reducing deterioration of fan blades that it is known in the art to treat vanes/blades against UV light (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined wind turbine as disclosed above and to modify the invention by treating the blades against UV light for the purpose of reducing deterioration of fan blades as disclosed by Link.

14. Claims 14, 47 – 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi and Trigilio as applied to claim 1 above, and further in view of Moriaki (JP 60-090992).

The combined wind turbine discloses all of the elements above. However the combined wind turbine does not disclose having support struts carried by the mast.

On the other hand, Moriaki discloses for the purpose of reducing torque fluctuation in rotor blades, strut supports 54, 61 being carried by the mast 53 (see figure 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined wind turbine as disclosed above and to modify the invention by having struts connected to the mast for the purpose of reducing torque fluctuation in rotor blades as disclosed by Moriaki.

15. Claims 27 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi and Trigilio as applied to claims 22 and 32 above, and further in view of Teasley et al (US 4,318,019).

The combined wind turbine discloses all of the elements above. However the combined wind turbine does not disclose using a permanent magnet generator.

On the other hand, Teasley et al discloses for the purpose of providing an improved segment for the rotor core, a wind turbine using a permanent magnets in the generator (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined wind turbine as disclosed above and to modify the invention by using a permanent magnet generator for the purpose of providing an improved segment for the rotor core as disclosed by Teasley et al.

16. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi and Trigilio as applied to claim 32 above, and further in view of Mead et al (US 4,229,661).

The combined wind turbine discloses all of the elements above. However the combined wind turbine does not disclose using a pneumatic system.

On the other hand, Mead et al discloses for the purpose of providing a convenient and movable wind turbine system, a wind turbine 1, an air motor 33, an air tank 10 and generator 35 (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined wind turbine as disclosed above

and to modify the invention by using a pneumatic system for the purpose of providing a convenient and movable wind turbine system as disclosed by Mead et al.

17. Claims 6 and 37 – 39, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi and Smith as applied to claims 5 and 36 above, and further in view of Minh (US 5,982,046).

The combined wind turbine discloses all of the elements above. However the combined wind turbine does not disclose that the cage is made of a metal mesh.

On the other hand, Minh discloses for the purpose of providing a wind turbine that can sustain fast prevailing winds, a cage made of metal (see figure 15).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined wind turbine as disclosed above and to modify the invention by having a metal cage for the purpose of providing a wind turbine that can sustain fast prevailing winds as disclosed by Minh.

18. Claims 43, 71, 72 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi and Smith and Minh as applied to claim 37 above, and further in view of Russell (US 6,172,429).

The combined wind turbine discloses all of the elements above. However the combined wind turbine does not disclose that the turbine mast is made of two sections.

On the other hand, Russell discloses for the purpose of recovering energy from natural sources such as wind efficiently, a mast 66 having a first section 54 and second section 56 (see figure 3). Moreover, the wind device can be placed vertically (see figure 6) and horizontally (see figure 8) and at different angles.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined wind turbine as disclosed above and to modify the invention by having a mast being made of two sections for the purpose of recovering energy from natural sources such as wind efficiently as disclosed by Russell.

19. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi in view of Rocklitz et al (US 6,451,080).

Joutsiniemi discloses a wind turbine having helically twisted blade, a plurality of airfoil blades 4 fixed with the helically blade, a turbine mast 3. The helically blade comprise two half wing blades 1, 2.

However, Joutsiniemi does not disclose that the blades have a NACA 0012 and 0015.

On the other hand, Rocklitz et al teaches for the purpose of improving the movement of air through airfoils that it is well known in the art to use blades having a NACA 0012 and 0015 (column 8, lines 48, 49).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a wind turbine as disclosed by Joutsiniemi and to modify the invention by using blades with NACA 0012, 0015 for the purpose of improving the movement of air through airfoils as disclosed by Rocklitz.

20. Claim 118 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi in view of Goldwater (US 4,684,817).

Joutsiniemi discloses a wind turbine having helically twisted blade, a plurality of airfoil blades 4 fixed with the helically blade, a turbine mast 3. The helically blade comprise two half wing blades 1, 2.

However, Joutsiniemi does not disclose that the helical blades have blade segments with a fixed edge and free edge.

On the other hand, Goldwater discloses for the purpose of enhancing the efficiency of a wind turbine, helical blade having blade segments with a free edge 128 and fixed edge (see figures 9 and 10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a wind turbine as disclosed by Joutsiniemi and to modify the invention by having helical blade with vane segments with free and a fixed edge for the purpose of enhancing the efficiency of a wind turbine as disclosed by Goldwater

21. Claims 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi in view of Jamieson et al (US 2003/0230898) and ordinary skill in the art.

Joutsiniemi discloses a wind turbine having helically twisted blade, a plurality of airfoil blades 4 fixed with the helically blade, a turbine mast 3. The helically blade comprise two half wing blades 1, 2.

However, Joutsiniemi does not disclose that the diameter of the blades varies according with the wind speed.

On the other hand, Jamieson et al discloses for the purpose of protecting a wind turbine system against damages due to fast wind speeds, a wind turbine that changes the diameter of the blades based on wind speed (see abstract & figures 2A-2C, 3A-3C).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a wind turbine as disclosed by Joutsiniemi and to modify the invention by having blades that vary the diameter for the purpose of protecting a wind turbine system against damages due to fast wind speeds as disclosed by Jamieson et al.

Moreover, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to come with those optimum ranges that the

applicant discloses, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233.

22. Claims 8, 20 and 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi, Trigilio, Smith and Minh as applied to claims 1, 36, 37 above, and further in view of ordinary skill in the art.

The combined wind turbine discloses all of the elements above. However the combined wind turbine does not disclose the material used for the vane segments.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to the material disclose, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In *re Leshin*, 125 USPQ 416.

23. Claims 15 - 18, 23, 25, 35, 45, 46, 54, 55, 59 – 67, 69 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joutsiniemi, Trigilio, Smith, Moriaki as applied to claims 1, 14, 22, 24 above, and further in view of ordinary skill in the art.

The combined wind turbine discloses all of the elements above. However the combined wind turbine does not disclose the optimum ranges and values disclosed in the claims.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to come with those optimum ranges that the applicant discloses, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233.

Also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the values disclosed in the claims, since it has been held that discovering the optimum value of result effective variable involves only routine skill in the art. In *re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Allowable Subject Matter

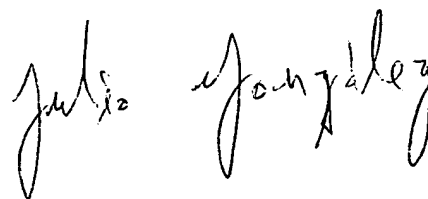
24. Claims 26 and 40 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is 571-272-2024. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Julio C. Gonzalez". The signature is written in a cursive, flowing style.

Julio C. Gonzalez
Examiner
Art Unit 2834

Jcg

May 3, 2005